

ABSTRACT OF THE DISCLOSURE

A method for power management in an electro-mechanical power-split infinitely variable transmission (eVT) designed to operate within a designated speed ratio range for vehicular applications. The eVT is comprised of an input shaft coupled to the output shaft of a drive engine to receive power, a drive shaft, two electric machines, and a pair of planetary trains each having a sun member, a ring member, a set of planetary members, and a planet carrier. The eVT further contains one or more torque transfer devices to connect or disconnect members of the planetary trains for transferring torque. The drive shaft is coupled with a final drive of a vehicle for delivering or recapturing power to or from the vehicle drive wheels. The two electric machines are interconnected electronically via a power control unit and are coupled respectively with members of the planetary train. The method of power management in the eVT is selected based on the current speed and torque of the input and drive shafts, and upon the desired operating parameters.